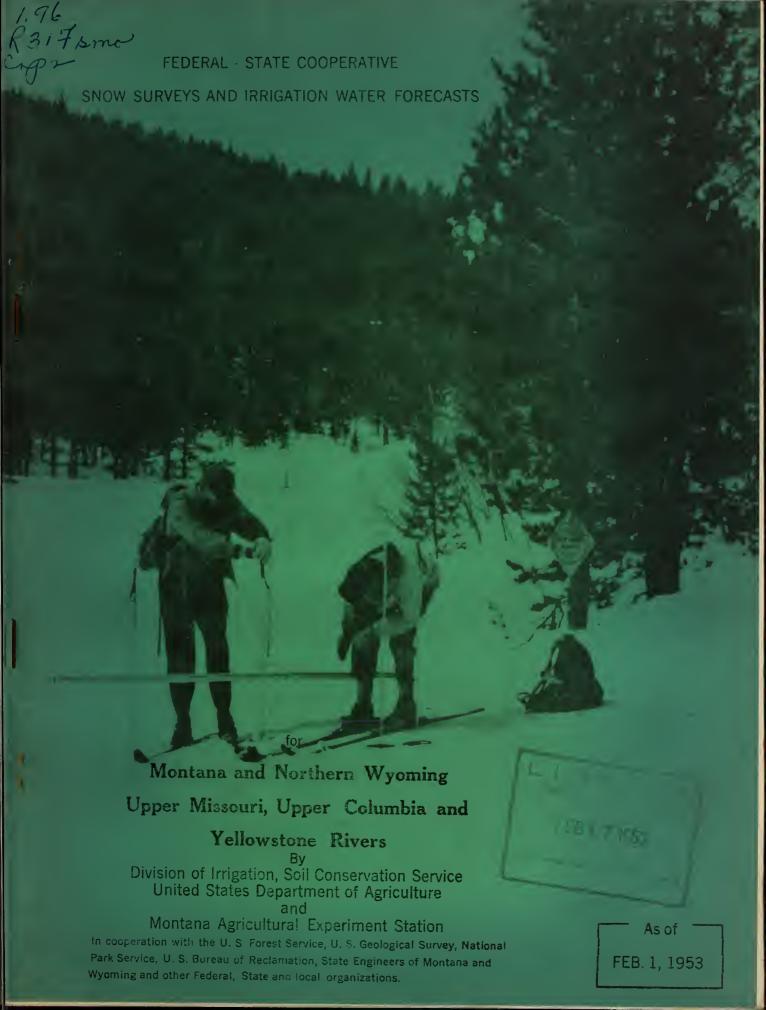
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UNITED STATES DEPARTMENT OF A RESULTURE SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

Forecasts by U. S. Weather Bureau of total annual streamflow October-September, inclusive, at more than 300 gaging stations are issued monthly January through May in the publication WATER SUPPLY FORECASTS FOR THE WESTERN UNITED STATES.

Weather Bureau forecasts of runoff presented in this bulletin are computed from procedures based on mathematical analysis of the relation between precipitation and runoff.

The Weather Bureau bulletins may be secured by writing to:

Hydrologist in Charge River Forecast Center U. S. Weather Bureau 712 Federal Office Building Kansas City 6, Missouri

FEDERAL -- STATE COOPERATIVE SNOW SURVEYS

AND

IRRIGATION WATER FORECASTS

FOR

MONTANA AND NORTHERN WYOMING

Upper Misscuri and Upper Columbia River Basins

Report Prepared by

Ashton R. Codd: Hydraulic Engineer Soil Conservation Service

and

O. W. Monson: Irrigation Engineer Montana Agricultural Experiment Station

Division of Irrigation Soil Conservation Service

and

Montana Agricultural Experiment Station Bozeman, Mont.



IRRIGATION WATER SUPPLY CUTLOCK for 1953 Season

As of February 1, 1953

************ February first snow survey measurements made at a few key stations over the Upper Missouri and Upper Columbia River Basins in Montena indicate only a FAIR irrigation water supply for this season. Although the percentages of average water content are close to 100% in some cases, at all courses the soil under the snow is not frozen and is very dry under the surface. Consequently, considerable snow water will be required for soil priming, resulting in a smaller seasonal river discharge than indicated by the snow pack. The Missouri Basin s hows approximately 97% of the average snow pack. Columbia Rasin in Montana shows approximately 102% average snow pack. Reservoir storage is slightly below average for this date. Precipitation throughout the season has been considerably below average, while January alone seems to be above average at stations in the west, with below average to the east.

JEFFERSON RIVER: Only two courses were measure d at the upper end of this basin, and indicate about average conditions as compared to 1950 and 1948.

MADISON RIVER: Courses measured on this basin show approximately 92% average. However, courses in Idaho to the south are somewhat higher. It would appear from other basins that the 92% figure is more conservative.

GALLATIN RIVER: The Gallatin River Basin would indicate about the same as the Jefferson, only a little higher, but not above average and considerably below last season, which was well above average.

MISSOURI MAIN STEM: Courses on tributaries to the Missouri from Three Forks to Fort Benton show about an average snow pack, and considerably below last season. At Marias Pass, the snow pack is 105% of the February first average. Low elevation snow in the entire basin is entirely absent. There is no snow on the plains area to speak of at this time.

UPPER YELLOWSTONE RIVER: Snow surve ys made at several places in Yellowstone Park indicate that the snow pack in this basin is about 95% average for the past seven or eight years.

LOWER YELLOWSTONE in WYOMING: All of the snow survey courses on the Upper Wind, Popo Agie and Big Horn were measured during the last week of January and indicate that the snow pack at high elevations above 8,000 is running about 85% average, while those courses between 8,000 and 7,000 are close to average or slightly above. Should this condition continue to exist



through April first, we could expect a large runoff early in the season with no reserve for the later part of the growing season. This condition could be rather serious to crops needing late irrigation.

Valley precipitation for the entire season to date has been considerably below average up through December. January precipitation was above average over the Missouri and Yellowstone Basins. However, the accumulated totals to date are below normal.

COLUMBIA RIVER BASIN: Flathead River: Snew survey courses measured at a few key stations on the several tributaries to the Flathead River indicate that the snow pack this season is running about 90% average and about 41% of February 1st, 1952 for the same courses. The Upper Clark Fork Basin has a 1 ittle more snow but still below average conditions exist here, and well below last season on February first. Precipitation at valley stations was considerably below average through December, but January has brought above average precipitation and the accumulated total to date is not too far below average.

The present outlook for this year's water is not too bad but not as good as last season on February 1st. With two months of winter before April first, there is some hope for a Fair water supply this season.



INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

	ŁΧ	10	141/) I A	1111	ATT	Q 11C	DRITHE	RN WYC	/IVII.	NG	DIA	O 11	(RSES	
Drainage Basin and Course Name	Mentana Number	∄ev,	Sec. Lat.	Twr.	Range Long.	Record Began	Measuring Dates ^a	Measured By:	Prainage Basin and Course Name	Mentan Number		Sec. Lat.	Twp.	Rang			Measur By:
JEFFERSON RIVER	MISS	OUKI	RIVER	R DI	RAINA	GE			MIS	SOUR	I RIVI	ER D	RAIN				
(ROCK-BEAV PHEAD)									SIG HORN RIVER Wyo	ming							
Lakeview Ridge Lakeview Canyen Limekiln White Pine Ridge	1153 1154 1252 1251	7400 6930 6950 8850	27 26 5 18	145 145 155 143	2W 9W 9W	1948 1948 1948 1948	3,4,5 3,4,5 3,4 3,4	9 9 1 1	Seavers Mill Owl Creek Teneleep R.S. Timber Creek Ranger Creek	9F8 8F1 7E3 9E2 7E1	8900 8700 8300 8800 8800	6 36 30 25 32	43N 43N 49N 47N 53N	102W 101W 86W 103W 88W	1948 1948 1935 1948 1935	2,3,4,5 2,3,4,5 4,5 4,5 4,5	12 12 1 12 1
(HOPSE PRAIRIE) Bloody Dick	13016	7600	12	85	16W	1948	3 /	1	Wood River	9F7	8000	28	46N	103W	1939	2,3,4,5	12
Cold Stene Lemhi Pase Terrell Creek Trail Creek	1309 1351 13012 1362	8100 7480 6650 7090	11 9 14 15	8S 10S 9S 10S	16W 15W 15W 15W	1948 1948 1948 1948	3,4 3,4 3,4 3,4 3,4	1 1 1 1	(SHOSHONS RIVER) Wy East Entrance Sylvan Paes	10E6 10E5	7000 7100	17 12	52N 52N	109W 110W	1948 1936	1,2,3,4,5	5 5
Selway Junction (BIG HOLE)	13D11	6800	27	88	15W	1948	3,4	1	TONGUE RIVER Wyomi	ng 7É2	7700	,	can	960	3.025	2215	,
Big Hele Pase Big Hele Pass (Below East Boundary Gibbons Pass Jahnke Creed	13D5 13D2 13D8	744D 6900 6700 7100 7340	28 24 22 4 25	3S 3S 3S 2S 7S	18W 18W 17W 19W	1948 1948 1948 1934 1948	3,4 3,4 3,4 2,3,4,5 3,4	1 1 1 1 , 2 1	Big Goose Burgess Ranger Sta. Dome Lake Lodgepole POWDER RIVER		7700 7900 8800 8200	36 11 32	53N 56N 53N 56N	86W 89W 87W 106W	1935 1950 1950 1940	2,3,4,5 2,3,4,5 2,3,4,5 4,5	1 12 12 1
Finer Forks Miner Lake (<u>WISE RIVER</u>)	1306 1307	7300 6720	24 10	6S 6S	17W 16W	1948 1945	3,4,5	1	Morth Powder Muddy Pass Soldier Park Sour Dough Red Fork	758 757 756 651 751	8500 9700 8700 8500 7000	5 11 36 17 18	47N 48N 51N 49N 43N	85W 85W 85W 84W 85W	1951 1950 1950 1936 1936	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	12 1 12 1 12
Andersen Ndw. Fik Hern Wiee River (RUBY_RIVER)	13814 13015 13013	7000 8450 6300	18 15 15	35 45 25	12W 12W 12W	1948 1934 1948	3,4 3,4,5 3,4	1 2 1	nou lork	Fulk	1000	10	4,511	0,111	1/30	~,2,44,2	-
Cottonwood	1152 11 8 1	5900 8400	24	108	3W	1948	3,4	1									
Cettonweod (Upper) Flashlight Tobacco Roet Vigilante	1203 1202 1101	6950 6900 6125	3D 22 13 28	10S 8S 4S 9S	2W 7W 3W 3W	1948 1945 1948 1948	3,4 3,4,5 3,4 3,4	1 1 1 1	ROOTENAI RIVER		COLUN						
MADISON RIVER Hebgen West Yellowstone Nerris Basin	11E5 11E7 10E2	655D 6700 7500	22 34 44°-441	11s 13s	3E 5E 110°-421	1934 1934 1935	1,2,3,4,5 1,2,3,4,5 3,4	2 2 5,6	Baree Mountain Blue Bird Baein Red Mountain FLATHEAD RIVER	1581 14A1 15A1	6000 6800 6000	1 24 4	25N 37N 36N	31W 26W 29W	1937 1937 1937	4,5 4,5 3,4,5	1 1
CALLATIN RIVER	1002	7,000	thit callfit.		110-42	1930	<i>></i> ,4	5,0	Baein Creek	13814	5000	11 6&7	19N 22N	12W 18W	1951	2,3,4,5	1 4
Devil's Slide Hood Meadow Mystic Lake New World 21-Mile	1004 1003 1002 1001 1166	8100 6600 6600 6700 7150	14 22 3D 24 1	55 48 35 35 115	6E 6E 7E 6E 5E	1935 1934 1935 1939 1934	3,4,5 3,4,5 2,3,4 2,3,4,5 1,2,3,4,5	2,6 2,6 6,7 6,7	Big Creek Brush Creek Cettle Queen Oesert Mouhtain HellRoaring Divide Hulbrook Kiehenehn	1383 1484 1381 1382 1483 13813 1482	6750 5000 4700 5600 5770 4530 4300	13 7 24 35 18 7	30N 35N 31N 32N 21N 37N	26W 17W 19W 22W 13W 21W	1941 1937 1939 1937 1942 1951 1946	3,4,5 3,4,5 3,4,5 1,2,3,4,5 3,4,5 2,3,4,5 4,5	1 1 1 5
MISSOURI RIVER MAIN									Limeetone Pace Logan Creek	13B8 14A5 13A5	7000 4300 5250	28 34 340	18N 30N 30N	12W 24W 14W	1948 1937 1934	3,4,5 3,4,5 1,2,3,4,5	1 1 2
Cheesman Reserveir Crystal Lake Crasshepper Kinga Hill Picnic Grounds Pipestone Pase Stemple Pass Ten Hile Creek, Lowe Ten Hile Creek, Middl	tm1203	6200 6100 7000 7950 6500 7200 6900 6250 6800	2 24 19 35 22 11 16 13	8N 12N 9N 13N 5N 1N 13N 8N 8N	5W 17E 8E 7E 6W 7W 7W 6W 6W	1936 1941 1938 1937 1940 1938 1934 1935 1934	1,2,3,4,5 3,4 3,4,5 2,3,4,5 2,3,4,5 3,4,5 1,2,3,4,5	2 1 2 3 1 2 2 2	Mariae Pass Snow Lab. #16 Spotted Bear Mt. Strawberry Lake Trinkue Lake Trout Lake #2 Upper Relland Lake Twin Creeks Quintonken	13A9 13B2 13B10 13B1 13B12 13B5 13B11 13B13	5200 7000 6500 6500 3600 7000 3580 3800	15 23 11 9 21 28 14	29N 25N 28N 25N 28N 20N 26N 26N	14W 15W 19W 17W 17W 16W 16W	1946 1948 1948 1948 1948 1948 1948 1951	1,2,3,4,5 3,4,5 3,4,5 3,4,5 3,4,5 3,4,5 2,3,4,5 2,3,4,5	2 1 1 1 1 1 1
Ten Mile Creek, Upper TETON PIVER)	1204	8000	19	8N	5W	1935	1,2,3,4,5	2	UPPER CLARK FORK								
Freight Creek • Waldron Creek Weet Ferk	12A1 12B2 1281	6000 5600 6000	13 16 6	26n 25n 25n	10W 9W 9W	1948 1948 1948	3,4 3,4 3,4	1 1 1	El Dorado Mine Gold Creek Lake Intergaard North Fork Jecke Pionic Grounde	1309 1308 1304 1387 1206	7800 7200 6&50 6330 6500	23 14 6 3 22	8N 8N 5N 17N 5N	12W 12W 13W 17W 6W	1946 1946 1939 1941 1940	4 2,3,4 3,4,5 2,3,4	11 11 3 4 3
(SUN RIVER)	3000	*****		0.00	201	2010			Pipeetone Pase Rainy Lake Slide Rock Mountain	1201 13B6 13C2	7200 4300 7100	11 11 26	1N 18N 10N	7W 16W 16W	1938 1947 1937	2,3,4,5	1 1 1
Sench Mark Cabin Creek 5-Buil Gates Perk Goat Hountain My Lake Wrong Creek Ridge Wreng Creek	1288 1286 1289 1285 1287 1389 1283 1284	5500 5400 5600 5300 7000 7300 6800 5700	9 33 36 31 20 21 17 32	20N 23N 20N 24N 22N 23N 25N 25N	10W 10W 10W 10W 10W 12W 10W 10W	1948 1949 1948 1949 1934 1950 1949	3,4 3,4 3,4 3,4 3,4 3,4 3,4 3,4	1 1 1 2 1 1 1 1 1	Southern Crose Stemple Pase Sterm Lake No. 2 Stuart Mill Stuart Hountain #1 Coyote Hill FEND OREILLE RIVER	1305 1301 1207 1306 1301 13810	6500 6900 7780 6500 7400 4200	9 16 19 19 6 12	5N 13N 4N 5N 14N 18N	13W 7W 13W. 13W 18W 16W	1939 1934 1939 1939 1936 1951	2,3,4 3,4,5 4 2,3,4 4 3,4,5	3 2 1 3 1
(MARIAS RIVER) Marias Pass Snow Lab. #16	13A5 13A9	5250 5200	34 15	30N 29N	14W 14W	1936 1947	1,2,3,4,5	2 2	Saree Meuntein Freezeout Submit #2 Heedee Creek	1381 1501D 1301	6000 6800 6200	1 21 9&16	25 N 15 N 14 N	31W 27W 27W	1937 1951 1937	Ц,5 Ц	1 1 1
(MILK RIVER)		, , , ,	_,	_,	27.7	m/=1	-1~121412		SITTERROOT SIVER		-1:-			,-			
Rocky Boy	9A1	5200	15	28N	16E	1941	3,4	7	East Fork Renger Stn. Gibbons Pees Mud Crook Peeture Hespores Camp	1302 1401 1402	5400 7100 4600 5580 6575	16 L 2L 19420 32	2N 2S 11N 1S 28%	17m 19m 2Lm 23m 16e	1937 1934 1937 1937 1937	4 2,3,4,5 3 4	1 1 1 1
Graeehopper	1003	7000	19	9N	38	1938	. 3,4	1	Nesperee Page Skalkahe Summit	11,D1 13C3	7259	3D	6H	17W	1937	4	î
Camp Senia Canyon Cooke City Crowice Mt. Independence Lake Camp Lupine Creek	9D1 10E3 1007 10D5 1006 10E4 10E1	7B90 7750 7400 8400 8000 7850 7300	2 144°-444° 25 29 22 144°-34° 144°-54°	95 93 73	185 110°-30' 145 95 125 10°-24' 10°-37'	1037 1938 1937 1935 1941 1937 1938	4 1,2,3,4,5 1,2,3,4,5 3,4 3,4 1,2,3,4,5 1,2,3,4,5	1 12 5 1 12 12 12	9	SASK <i>A</i>	TCHEV	WAN	RIVE	R E	BASIN		
(SHIFLDS RIVER)									ST. MARY RIVER	13A3	6000 Li	80-501	11	30-421	1922	5	2,8
Percupine LOWER YVILOWSTONE	1003	6500	10	4N	108	1938	3,4	1	Piegan Pase #4 Piegan Pase #6	13AL 13A6	5000 L	80-161 80-161	11	30-10:	1922 1922	5	2,8
(Wind River) Wyoming Brooks Lake #3 Burroughs Creek Oinweedie Dry Creek DuNoir Geyeer Creek	9F6 9F6 9F1,0 9F9 9F2 9P3	9200 8800 10000 9500 8750 8500	23 15 9 34 27	42N	110W 107W 105W 105W 108W	1939 1948 1948 1948 1940 1948	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	12 12 12 12 12 12	Mount Allen #7 Ptarmigan #8 • Rumer ele 1,2,3,1	13A7 13A8	5800 Li	8°-14' 8°-50'	11	30-12:	1922 1922	5 5 1, April 1,	2,8
Hobbe Park Little Warm Mosquite Park R.S. Sheridan R.S. St. Lawrence R.S. T-Crose Ranch Trout Creek	9G2 9F4 9G3 9F1 9F11 9F5 9G1	9500 9500 9500 7500 9000 8000 8400	22 24 23 3 26 1	2S 41N 2S 42N 1N 43N 2S	3W 1D8W 3W 109W 4W 107W 2W	1948 1948 1940 1939 1940 1940	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	12 12 12 12 12 12 12	2. U.S 3. Mer U.S 5. Net	3. Peres 3. Geele ntana Po 3. India tionel P	t Service gieal Sur er Compe n Service ark Servic	vey and				761	
	10F1 tyoming 8G2 8G4 9G4 8G1 8G3	9600 9500 9000 9000 8500 9000	29 23 19 12 3	31N 30N 30N 31N	100W 100W 100W 100W 101W 101W	1936 1939 1936 1948 1939 1939	2,3,4,5 2,3,4,5 2,3,4,5 3,4,5 2,3,4,5 2,3,4,5	10 12 12 12 12 12 12	7. Cit 8. Dom 9. U.S 10. U.S 11. Dec	ty of Be minien W 5. Fich 6. Burea erledge	periment : semen ater and and Wildli u of Reel Citisens (rvation Se	Power Buife Serv	rio e		6 6 7 01/700a A 0006 0000	Liens oo:	R-11,484

STORAGE IN RESERVOIRS OF MONTANA - February 1, 1953 WISSOURI RIVER BASIN - Montana

	1000	TT1.		ŧ	r h		
C C C C C C C C C C C C C C C C C C C	Location on or	OSBOLE		Keservol r	ur semmica in	n l,000's a.f.	
KESEKVOIK	diversion from	Capacity					
			1953	1952	1951	1950	1943 - 1952
Lima Reservoir	Beaverhead	87,00	29.5	35.0	147.5	33.9	1 🗀
Ruby Reservoir	Ruby River	38.85	ı	8			
Willow Creek Res.	Willow Creek	17.76	8	0	ı	ī	ī
Hebgen Lake	Madison River	345.00	178.5	390.8	239.2	207.6	231.4
Ennis Lake	Madison River	00°1†7	38.5	38.9	30.8	34.3	3/1.0
Lake Sewall	Missouri River	37.80	19.0	19.3	23.6	20,02	27.5
Hauser Lake	Missouri River	62.50	63.8	36.7		38.2	
Lake Helena	Missouri River	10,45	10.9	2.7	5,0	3.0	7.6
Holter Lake	Missouri River	81,92	79.3	63.7	45.6	68.0	0
Gibson Reservoir	N.Fk. Sun River	105,00	7,67	9°89	75.04	34.1	ر 09 09
Willow Creek"	N.Fk. Sun River	32.30	19.9	23.1	23.1	20.57	16,1
Pishkun Reservoir	N.Fk. Sun River	32,00	18.0	23.6	19.0	19.5	19.7
Lower Two Med.Lake	Two Medicine "	1/1,000	0	0	0	0	0
Four Horns Lake	Badger Creek	20,00	9.0	8.6	ı	5.9	7.8
Swift Reservoir	Birch Creek	30.00	8.7	20.8	21.9	16,7	21.8
Lake Francis	Dupuyer & Birch Cr.	_	95.5	47°26	93.8	81.7	95,2
Ackley Lake	Judith River			3.7	4.9	7.77	9.17
Durand Reservoir	N.Fk.Musselshell	7.01	ı	. 1	7,5	6.2	5,1
Wartinsdale "	S.Fk.Musselshell	23.10	t	ł	12,8	6.6	11,2
Deadman Basin "	Musselshell River	52.50	1	8			
Fort Peck Res.	Missouri River	8	12,420.0	16,590.0	12,440.0	11,280.0	11,232,2
Fresno Reservoir	Milk River	127,20	76.8	83.4	9.89	8.3	58.3
Nelson Reservoir	Milk River	66.80	31.8	39.9	16.1	5.4	33.4
Mystic Lake	W.Rosebud Creek	20.80	9,1	10.4	11.9	10.9	12,3
Cooney Reservoir	Red Lodge Creek	27.50	ē	8.6	10.7	10.7	7.1
Tongue River Res.	Tongue River	73.90	ı	17.0	ಜ್ಞ	5.6	7.6
Sherburne Lake	Swiftcurrent Cr.	66.10	1	17,2	23.3	33.9	19.9
		YELLOWSTONE	RIVER	BASIN - WYOMING	MING		
Ruffelo Bill Doc	D. Consultation D. Consultatio	1.54 40		1 770	207	00	7 000
Boysen Reservoir	Wind River	819.80		7,000	505.9	ZZI.I	502.5
Pilot Butte "	Wind River	20.10		ייי	C C	0 01	0 21
Bull Lake Reservoir Wind River	Wind River	155,00		7,17	2,00	70°C	10,00
				-	†		



STORAGE IN RESERVOIRS OF MONTANA - Feb. 1, 1953

COLUMBIA RIVER BASIN

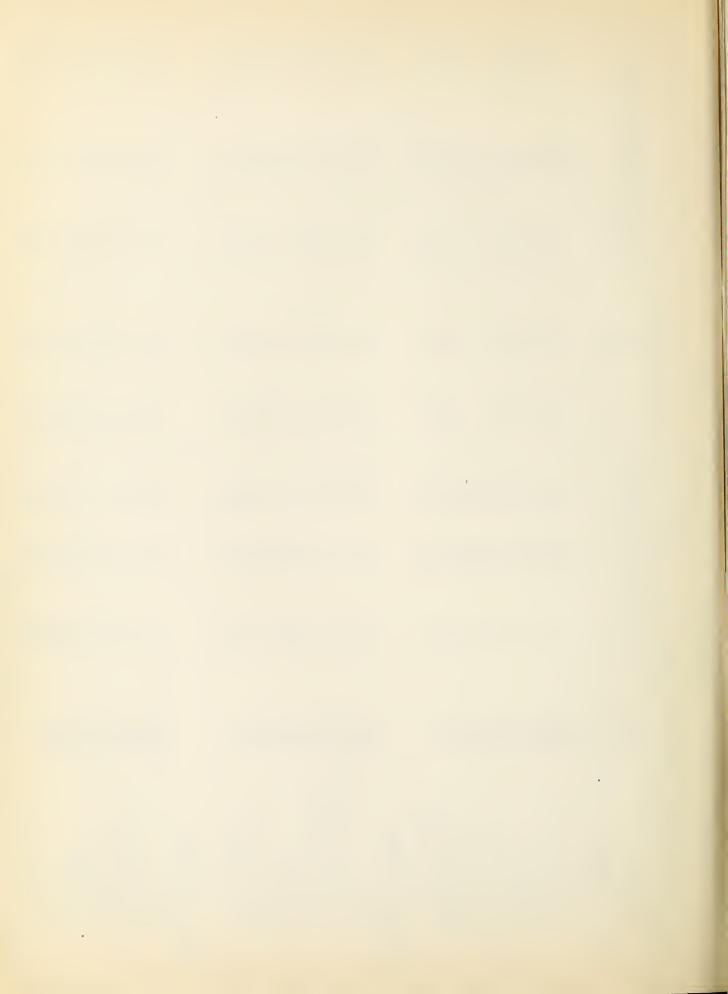
).t	10-year average	1943 - 1952	57.4.66	12.59	1	9.666	17.8	ณ° ณ	32.1	Sno Bound	
O's Acre Fee		1950	18,79	13.86	ı	958.1	26.5	3,4	0, 17	Sno Bound	
Reservoir Volumes in 1,000's Acre Feet		1951	25,16	22,50	ı	1,107.0	33.3	4.9	14,01	Sno Bound	
leservoir Vo		1952	24.6	11,0	61.4	1,182,0	55.7	4.1	1,5.9	0.1	
F		1953	21.6	1	671.1	961.7	28.5	3.8	24.3	Sno Bound	
	Usable	Capacity	31,00	34.80	00.000	1,791,00		6.70		9°2	
	Location on or	diversion from	Flint Creek	Rock Creek	So.Fk.Flathead	Flathead River	*Little Bitterroot	*Dry Fork Creek	**Flathead Irr.Proj	Jocko Creek	
	RESERVO IR		Georgetown Inlie	Como Lake	Hungry Horse Reservoir	Flathead Lake	Little Eitterroot	Dry Fork Reservoir	Mission Valley Res.	Lower Jocko Lake	

Sum of two reservoirs on Little Bitterroot Sum of two reservoirs on Dry Fork Creek Sum of (8) eight reservoirs on Project



PRECIPITATION DATA FOR February 1, 1953 MONTANA

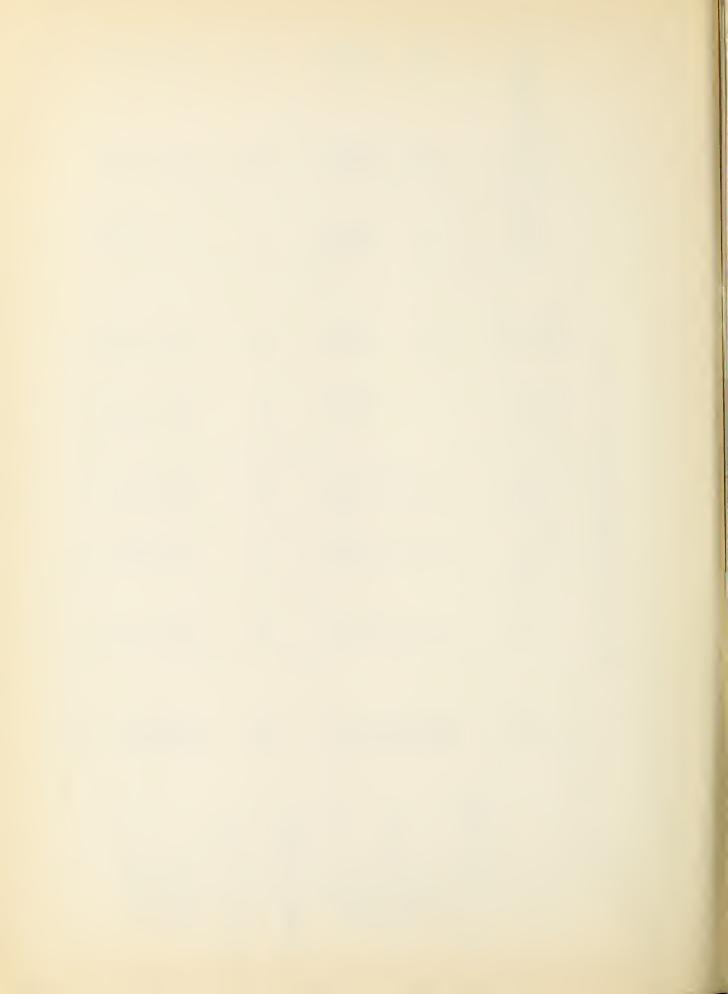
Station	五 1ev	Current	195 Pre	2 cinitation	1953	January Dent	Accimulated		Precinitation
	ati on	Oct.	o A o	Dec.	Jano	from	1952-53	14	Departure
WEST OF DIVIDE						NOTTHE 1			
Fortine Ru++e (Aircort)	3000 5523	20,	0.28	0.87	, ,		1 1	5.72	1 0
Phillipspur Phillipspur	5280	E ==	1,07	20.0	0.00	0 0 0 0 0	0,60	20° x	
Hamilton	3529	. 2.1	0.64	0.27	1.60	0.81	2.26	3.22	96.0
West Glacier	3154	90°	0.68	2,43	7.07	4.14	10.25	11.32	-1.07
Summit (Marias)	5213	37.	1.63	3.12	17/100	10.58	19.50	11.69	7.81
Trout Creek	2/185	. 15° - 1	0.07	3.42	15.14	5,1,0	17.19	13.87	8.33
Average (9)	5433	.17	0.70	1,42	6-140	410-11	8.92	7.87	1.65
CENTRAL DIVISION									
Варь	1,300	.41	96.0	0.08	2.24	1.30	3.69	4.05	-0.36
Havre		0.01	0°42	0.12	0.26	7.7.0-	0.81	2,62	11.001
Great Falls (Airport)		16	1.36	0.08	0,55	-0.06 -0.05	2.15	0 0 0 0	-0.65
Lewistown (Airport)	4132	.37	0.65	90.0		-0.89	1.54	1.50	0.0
Livingston Migdom	144.85 40E.8	18	0.52	0.18	0.50	†0°0-	1.58	5.11	-1.73
Wisdom West Yellowstone	6999		0.0	2,42	2,40 2,80	-0.61	5.22	8.04	
Mystic Lake Average (9)	6558	.19	1.18	0.47	1,60	0.46	3.74	5.60	-1.86
-c								-	i i
Malta	2255	10,	0,18	90.0	0.50	-0°03	95	20.0	C[[
Fort Peck	2180	i E⊣	0.04	0,11	0.01	-0.17	.36	1.88	-1.52
Wedicine Lake	1962	,11	0,10	90°0	0.70	0.39	8,1	1.67	-0.58
Circle	21,28	0	0.17	E- (0.11	0.56	.31	10 ×	12°55
Miles City	2392	, to.	0.61	0,17	0,70	10.0	1,43	2.76	11,33
Glendive	2076	05	0.58	0,05	0.17	-0.35	.82	2.32	-1.50
Broadus	3026	170°	T	90.0	0,85	0,25	36,	0.00	-1.68
*Noto: Figure (O)	•		0,673	Octo	61706	1000	20.	2470-2	1,022
TEGI ES MICHOR E WITHOU	s 1gn	(-) are p.	pruso						



PRECIPITATION DATA FOR February 1, 1953 NORTHERN WYOMING

	ipitation	Departure		-1.76	1	-1.77	1.32	-1.51		-1.76		-0.89	-1.07	1.33
	Accumulated Precipitation	Normal		2.16	1	2,95	20,00	2.34		3.89		2.61	5.145	3.31
	Accum	1952-53		0.40	1	1,18	8,4	0.83		2.13		1.72	2.36	1.98
January	Dept.	from Normal		-0.17	\ - 1	-0°77	40.33	60,0-		+0.14		+0.36	+0.17	+0°24 +0°18
1953		Jan.		0.14	1	08.0	0.56	35.		1.14		0.69	29.0	0.74
	Current Preçipitation	Dec.		0.02	0.08	0,06	90.0	0.13		0.50		0.65	0.86	0.12
1952	rent Prec	Nove		0.21	0.16	1.94	0.14	0.47		0.27		0.19 0.04	07.0	1.02
	Cur	Oct.		00.00	000	ئ ئ م	316	80,		. 22		.02	. 18 10	.10
	Elev-	ation		4984	4061	6950 1,556	4954	- - - -		4021		3680 5280	47747 5000	1,850
	Station		BIG HORM RIVER BASIN	Cody Levell	Worland	Sunshine 4 SW Thermopolis	Riverton	Average (7)	TONGUE RIVER BASIN	Sheridan	POWDER RIVER BASIN	Arvada Wetz Ranch	Gillette Nime Mile Creek	Mid West Average (5)

*Note: Figures without a minus sign (-) are plus.



MONTANA SNOW SURVEYS - February 1, 1953

MITS ACTURE TRACTM						•		1				ļ
	Ñ	Elev.	Date	Snow			Water	. Content		(Inches)		×
AND			of	De pth	Feb. 1	Past	Records	τΩ		Average Data	Data	Φα
SNOW COURSE **			Survey 1953	(In.) 1953	1953	1952	1951	1950	1949	Avgo	1.	3 14 0
JEFFERSON RIVER				1	+							2 '
(Rock-Beaverhead) Lakeview Ridge	1115	74,00	1/30	25	9.9			9,0		9-9	100	к
Lakeview Canyon *Kilgore	1154	6930	1/30	32	9.5			12.0	*****	9 9	110	710
*Camp Creek	12E3 11E11	6700	2/1	30	9.6	15,5	7.7	9.6	5.7	7.0	150	18
(Big Hole)	13016	6200										
MADISON RIVER	`				400						many distribution at pri at expendit	
Hebgen	11155	6550	1/27	56	, , , , , , , , , , , , , , , , , , ,	14.0	7.5	7.7	11,1	8.3		19
West Yellowstone 21-Mile	11E7 11E6	6700	1/28	76 10 10 10 10 10 10 10 10 10 10 10 10 10	0,11 0,11	22.00	300	0.4	7.65	7.7		16
*Big Springs *Island Park	11E9 11E10	6500 3600 7500	1/28 1/29 100	£ 25	11,15	19,7	0,00	12.0	15.1	10.0	112	18
*valley view	7777	0069	1/29	200	7	19.5	170)	0. N	10.7	10.1		0
GALLATIN RIVER					de discolar de							
Devil's Slide Hood Meadow	1001 1003	8100	2/1 1/31	40 17	10,3						обущей установ.	
New World	1001 11E6	6700	2/2 2/2	20	7.0	ر م در	6.1	3,5	ω ω'α	7.6	150	92
			}) Î] 8 1 1	1)	•	J †	J • •))) 4
*Adjacent Basin												

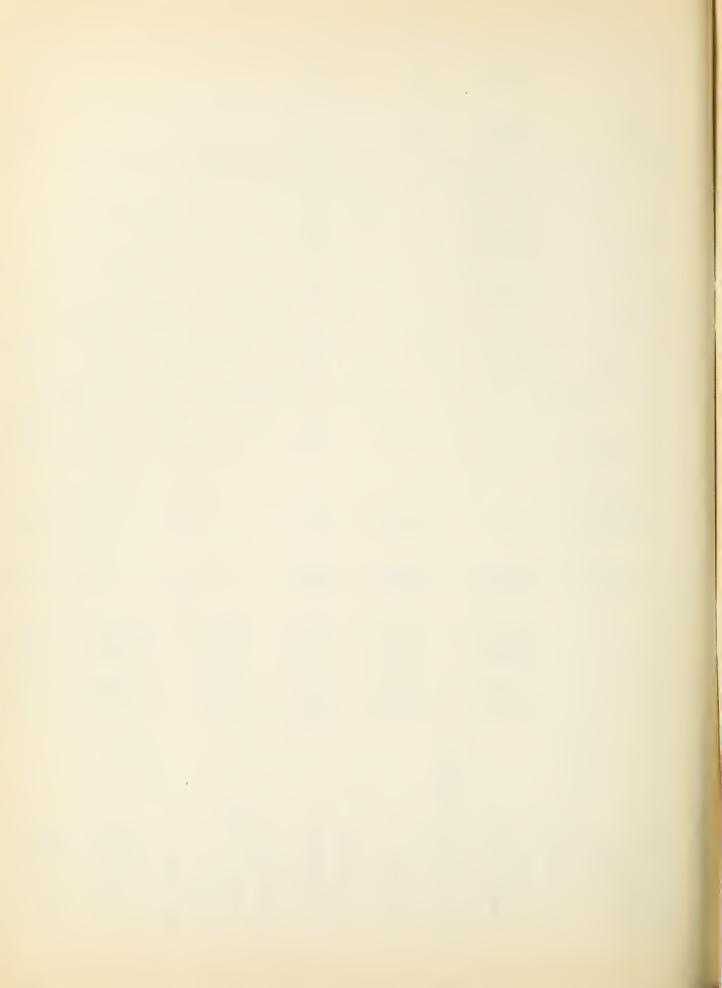


MISSOURI BASIN							Water	Content	t (Inches	hes)		×
DRAINAGE BASIN	No.	Elevo	Date	Snow	ŗ					Average		Φ (
AND SNOW COURSE **			of Survey 1953	Depth (In.) 1953	Heb. 1 1953	1952	1951	1950	1949	AVE	%Avg.	o H o
MISSOURI RIVER MAIN STEW Chessman Reservoir Picnic Grounds Pipestone Pass Tenmile, Lower Termile: Widdle	1205 1306 1201 1202 1202	6200 6500 7200 6250 6800	1/30 1/30 1/30	21 21 71 20 30	ン N N 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.14 0.42 0.00 0.00 0.00 0.00 0.00 0.00 0.0	WTWV8	1.07	7, n. n. o. o. v. r. o. o. v.	0,000,00 0,000,00	94 115 103 106 115	18 67 19 19
	12ch	8000	2/2	38	9.0	10.01	10.0	8.4	10.6	8.3	108	19
UPPER YELLOWSTONE									3.00			
Canyon Cooke City Lake Camp Lupine *Lewis Lake Divide *Astor Creek	10E3 10D7 10E4 10E1 10E9 10E8	7750 7400 7850 7300 7000		28 26 26 103 84	0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0	10.6	2000 2000 2000 2000 2000 2000 2000 200	11.6 4.3 7.4 35.2 16.9	10.2 6.7 8.4 39.8 19.2	000000 00000 00000 00000 00000	94 100 91 83 103 157	372 8 9 9 8 9 8 9 8 9 8 9 9 9 9 9 9 9 9 9
LOWER YELLOWSTONE (Wind River - above Div.Dam)	(m											
Brooks Lake #3 Burroughs Creek Du Noir	10F2 9F6 9F2	9200 8800 8750	1/5/5	23 17 17 17 17 17 17 17 17 17 17 17 17 17	15. 5.7. 7.0.	19.4 8.7 5.8	23.4 19.0 8.0	22.6 15.3 10.7	21.3	17.0	92 89 79	12 12
Geyser Creek Little Warm	9F3 9F4	8500	1/25	28	10.3	12.4	19.3	18.9	6.3	15.2	77	54
Sheridan T-Cross Ranch	9F1 9F5	7500 8000	1/24	2 8 2 8 3 8	6.3	7.0	10° 0°	7.0	ο. ο. α.	7. v.	118	12
*Togwotee Pass Dinwoodie	9F1 9F10	9600	2/2	67 32	18.7	20.8	23.9	20.4	20.0	18.5	101	18
Dry Creek Hobbs Park	9F9 9G2	9500	1/23	20 32	W 00	4.1	200	8,2	12 51 12 03	12,27	20	<u>г</u>
Mosquito Park	963	9500	1/29	18	7.9	4,7	14.07	10.2	10,0	10,0	17,	10,
ot, Lawrence	96.1	0000	1/20	97 -	7,017	7,7	1,0	~ rc	0.0	νν Σ, ω	95	7 L
*Adjacent Basin	i > \	2	\-\ \-\ \-\			!						

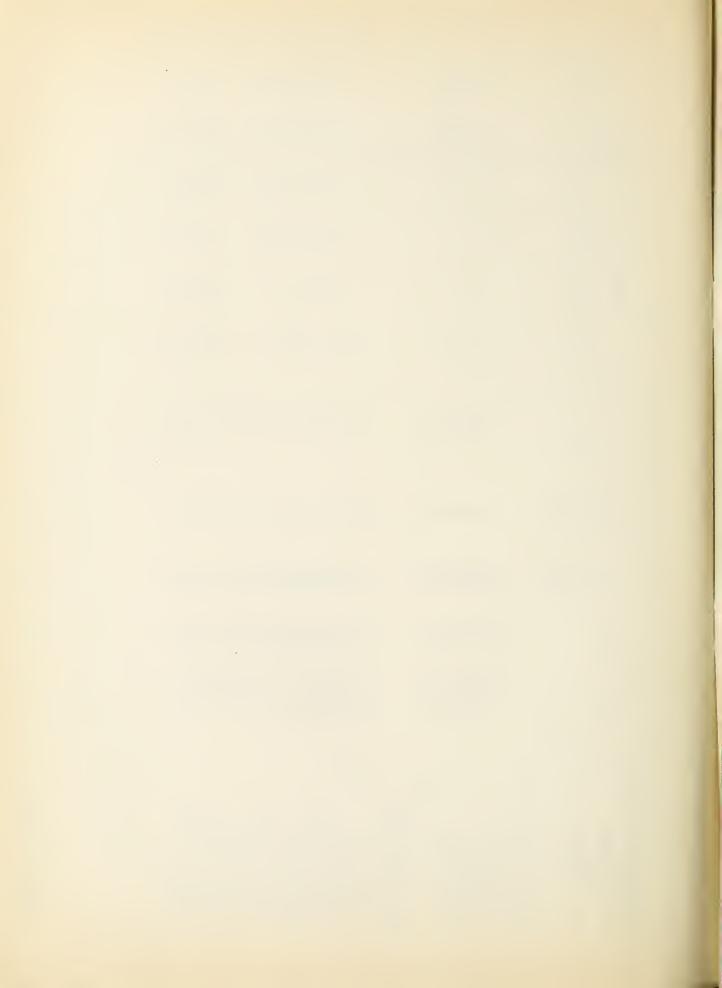


MONTANA SNOW SURVEYS - February 1, 1953

							Water	Content	1	(Inches)		>-
DRAINAGE BASIN AND	No.	Elev.	Date	Snow Denth	Fob 1		Do c+	Poposition		Average	Data	Φ (
SNOW COURSE **			Survey 1953	(In.) 1953	1953	1952		1950	1949	Avg.		ಥ 4 છ
POPO AGIE RIVER												1
Blue Ridge Grannier Meadows Sawmill Glade South Pass	8G2 8G4 8G1 8G3	9500 9000 8500 9000	1/28	24 29 31	1,0 8 1,1 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	12.1	10.5 2.5 11.5 5.5	16.3	10.01	0,000	821 884 877 877	112
BIG HORN RIVER (Wyoming)												
Beavers Mill Owl Creek Wood River	9F8 8F1 9E7	8000 8700 8000	1/27 1/28 2/2	20 14 13	~~. ~~. ~~.	2.57	6.3	6.5	42	1°.7	98	ららょ
SHOSHONE RIVER												
East Entrance Sylvan Pass	10E6 10E5	7000	1/30	28	6.7	11.0	9.4	8.6	10.7	9.3	72 74	10
TONGUE RIVER												
Burgess Junction Big Goose Dome Lake	7E4 7E2 7E5	7900										
POWDER RIVER												
Sour Dough North Powder Soldier Park Muddy Pass	6E1 7E8 7E6 7E7	8500 8500 8700 9700										
FLATHEAD RIVER												
Basin Creek Desert Mountain Holbrook	13814 13A2 14B13	5000 5600 4530	1/30	27 25 25	6.4 9.2 7.2	15.2 6.4	7.4	13.7		7.8	82	W 1 0



							Water	Water Content (Inches	t (Inc	hes)		į >-
DRAIMAGE BASIN	No.	Elevo	Date	Snow	ر با را <u>با</u>		D - 1	7		Average I	Data	Φ
SNOW COURSE **			Survey 1953	(In.) 1953	1953	1952	1951 1950	1950	1949	Avg.	%Avg.	ස වූ
FLATHEAD RIVER (Con't.)												
Marias Pass	13A5	5250	2/2	38	12,2	16.6	15.7	50.6	12.6	11.6	105	19
Rainy Lake	12B6	2600 14300	2/2 2/2	55 32	20 20 20	15.4	9°21	11.4	4.6	12.1	102	m 0
Twin Creeks Upper Holland Lake	13B11 13B5	3580 7000	1/29	28 72	8°7; 19°8	10.9	9.1			7.6	06	2
UPPER CLARK FORK												
Coyote Hill	13811	1200	2/2	62	8,2	10.4						O
Chessman Reservoir	12C5	6200	1/30	12	3.0	7.0	3.1	3.4	4.4	3.2	176	18
Intergaard Pionio Grannds	1364	6450	0 0 0 0	2	5,6	6.7	2,0	7:0	2.6	121	108	60
Pipestone Pass	1201	7200	1/20	17	000	3.50	7.00	1°,1	J D G	, o	103	4
Rainy Lake	13B6	7500	2/2	35	9.6	12.7	. A	11.4	7.6	9,1	10%	9
Southern Cross	1305	6500	2/2	19	5,1	6.1	1,06	5.2	4.0	2.0	130	0
Storm Lake #2	1207	7780	1/24	<u>3</u>	7,8					`	`	\
Stuart Mill	1306	6500	2/2	18	9°17	5.2	5,2	3.4	4.5	11.01	104	0
	1202	6250	2/1	21	6.4	5.8	5,5	7.6	6.3	7.6	106	18
Tenmile, Middle	1203	9089	2/2	30	7.6	ω α	ಜ್ಜಿ	6.9	8.7	9.9	115	19
Tenmile, Upper	120/t	8000	2/1	74	0°6	10.4	10.0	8.4	10.6	8,3	108	19
*Lookout	15B2	5250	1/29	62	22,44	32.4	27.3	30.9	28.2	22,1	101	17
					=-					_	_	



COLUMBIA KIVER BASIN											
No.	o Elevo	Date	Snow			Water	Water Content (Inches	rt (Inc	shes)		>-
		of Survey	Depth (In.)	Feb. 1		Past r	Past records		J 12	Average Data	D 0
		1953	1953		1952	1951	1950	19/19	Avgo	%AVE.	
											C
Canada	da 3500	1/29	28	2°8	හ ර	7.6	11.7	6.8	6.3	126	
Canada	a 4100 a 5600	1/30	9:17	11,9	12,3	10.7			11.5	107	120
Canada	a 5000	1/31	51	13.5	10.0	19,9	12.9	7.9	11.8	115	
Canada	la 3050	1/30	111	13.3	12,9	11,1	6.6	14.6	10,0	133	15
Canada 16A1	.a. 6000 14800	2/3	16	3,8	5.2	5.1	, r.	2	7000	83	
Canada	-	1/30	710	10.3	12,7	8.14	11.5	0.6	10,1	102	
Canada		1/31	15	12.04.	12,6	13.5	12.5	12,1	12.6	66	
13D2 13D16	7100	1/30 2/l _{\\}	71 56	16.6 15.6	20.0	16.9	17.2 11.4	13.4	14.9	112	







Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"